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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/760,302

01/21/2004

James Reichert

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02/15/2006

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EXAMINER

BLACKMAN, ROCHELLE ANN J

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 02/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/760,302

Applicant(s)

REICHERT, JAMES

Examiner

Rochelle Blackman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

Claims 1, 9, 16, and 26 are objected to because of the following informalities: the claims recite the limitation "the three-dimensional object" in line 7 of claim 1, line 6 of claim 9, lines 7 and 8 of claim 16, and line 7 of claim 26. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3, 5-12, 15, 16, 19-26, 29, 31, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Kataoka et al. (U.S. Patent No. 5,270,752).

Regarding claim 1, Kataoka discloses a projection system (see FIGS. 1-4) for projecting a three-dimensional object (see 1, 6 of FIGS. 1 and 3) within a defined volume, the projection system comprising: a holding tank (see 21 of FIG. 2) for storing a reservoir containing a projection medium (see 1 of FIGS. 1 and 3); a projector (see 8 of FIGS. 1-3) including a plurality of valves (see 31 of FIG. 3) for projecting the projection medium from the holding tank; an illumination device (see 4 of FIG. 1) for illuminating

the projected medium for a fixed time period; and a receiving mechanism (see 3 of FIGS. 1 and 4) for receiving the projection medium after illumination.

Regarding claim 2, Kataoka discloses wherein the projection medium comprises a liquid (see 6 of FIGS. 1 and 3).

Regarding claim 3, Kataoka discloses an image data computation module (see 4 of FIG. 1) for computing image data.

Regarding claim 5, Kataoka discloses an illumination device control unit (also see 4 of FIG. 1) for controlling operation of the illumination device.

Regarding claim 6, Kataoka discloses wherein the receiving mechanism includes a reclamation tray (see 3 of FIGS. 1 and 4) for reclaiming the projection medium for further use.

Regarding claim 7, Kataoka discloses wherein the receiving mechanism includes a drain (see 42 of FIG. 4) for disposing of the projection medium.

Regarding claim 8, Kataoka discloses wherein the illumination device comprises a strobe light (also see 4 of FIG. 1) is mounted to a face of the projector.

Regarding claims 9-12 and 15, the "method for projecting a three dimensional object within a defined volume" is similarly met by the features and function of the above-mentioned elements for the "projection system for projecting a three dimensional object within a defined volume" of claims 1-3 and 5-8.

Regarding claims 16 and 19-25, the “projection system for projecting a three-dimensional object within a defined volume” is similarly met by the above-mentioned elements for the “projection system for projecting a three dimensional object within a defined volume” of claims 1-3 and 5-8.

Regarding claims 26, 29, 31, and 32, the “method for projecting a three-dimensional object within a defined volume” is similarly met by the features and function of the above-mentioned elements for the “projection system for projecting a three dimensional object within a defined volume” of claims 1-3 and 5-8.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-6, 8-19, and 21-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Dyner (U.S. Patent No. 6,857,746).

Regarding claim 1, Dyner discloses a projection system (see FIGS. 1-15) for projecting a three-dimensional object (see 11, 39 of FIG. 1 and/or 58 of FIG. 9) within a defined volume, the projection system comprising: a holding tank (see 2 of FIG. 1 and/or 43 of FIG. 9) for storing a reservoir containing a projection medium (see *condensate, water* in see col. 10, lines 53-60, see 5 of FIG. 1 with col. 6, lines 1-10,

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and/or see “fine cloud mist of microscopic particulates” in col. 11, lines 15-19); a projector (see 4 of FIG. 1 and 52-57 of FIG. 9) including a plurality of valves (see 57 of FIG. 9 and col. 11, lines 32-40 – although not shown, the *curved or cylindrical surfaces* the “plurality of valves”) for projecting the projection medium from the holding tank; an illumination device (see for example, see 16 of FIG. 1 and/or 69-71, 77, 78, 83 of FIG. 9) for illuminating the projected medium for a fixed time period; and a receiving mechanism (see 1 of FIG. 1 and/or 48 of FIG. 9) for receiving the projection medium after illumination.

Regarding claim 2, Dyner discloses wherein the projection medium comprises a liquid (see *condensate, water* in see col. 6, lines 2-10 and col. 10, lines 53-60).

Regarding claim 3, Dyner an image data computation module (for example, see 14 of FIG. 1) for computing image data.

Regarding claim 4, Dyner discloses a projection communication and control module (for example, see 15, 17 of FIG. 1) for communicating the computed image data to the projection unit in order to control the valves.

Regarding claim 5, Dyner discloses an illumination device control unit (also see 16 of FIG. 1 – element 16 is considered to have some sort of control unit or device in order to operate) for controlling operation of the illumination device.

Regarding claim 6, Dyner discloses wherein the receiving mechanism includes a reclamation tray (see 48 of FIG. 9) for reclaiming the projection medium for further use.

Regarding claim 8, Dyner discloses wherein the illumination device comprises a strobe light (see 11 of FIG. 1 and/or 69 of FIG. 9) is mounted to a face of the projector.

Regarding claims 9-15, the “method for projecting a three dimensional object within a defined volume” is similarly met by the features and functions of the above-mentioned elements of the “projection system for projecting a three-dimensional object within a defined volume” of claims 1-6 and 8. With respect to a quantity of projection medium that “falls from” the projector in claim 14 – although the “projector” is arranged at the bottom of the “system” in FIGS. 1 and 9, the “system” is considered be capable of being arranged to have the “projector” at the top of the system in order for the projection medium to physically “fall from” the projector.

Regarding claims 16-19 and 21-25, the “projection system for projecting a three-dimensional object within a defined volume” is similarly met by the above-mentioned elements of the “projection system for projecting a three-dimensional object within a defined volume” of claims 1-6 and 8.

Regarding claims 26-33, the “method for projecting a three-dimensional object within a defined volume” similarly met by the features and functions of the above-mentioned elements of the “projection system for projecting a three-dimensional object within a defined volume” of claims 1-6 and 8. With respect to a quantity of projection medium that “falls from” the projector in claim 28 – although the “projector” is arranged at the bottom of the “system” in FIGS. 1 and 9, the “system” is considered be capable of

being arranged to have the "projector" at the top of the system in order for the projection medium to physically "fall from" the projector.

### ***Response to Arguments***

Applicant's arguments filed November 30, 2005 have been fully considered but they are not persuasive.

Applicant argues on pg. 7, under REMARKS, *with respect to independent claims 1, 9, 16, and 26, Kataoka fails to disclose, among other things, "an illumination device for illuminating the projected medium for a fixed time period, wherein the projected medium forms a three-dimensional object, and the three-dimensional object is viewable circumferentially."* Applicant also argues, *unlike Kataoka, embodiments of the present invention generate three-dimensional objects that are viewable circumferentially. The three-dimensional objects may be viewed from the sides, front and back simultaneously.*

Examiner disagrees and maintains Kataoka discloses the "claimed" invention with respect to claims 1, 9, 16, and 26, including "an illumination device for illuminating the projected medium for a fixed time period, wherein the projected medium forms a three-dimensional object, and the three-dimensional object is viewable circumferentially". Fog screen 1, 6 of Kataoka is considered to be a "projected medium" that "forms the three-dimensional object, and the three-dimensional object is viewable circumferentially". Paragraph [0022] of applicant's disclosure states, "A variety of projection mediums including sand, dust, steam, vapor, and liquid may be used". Fog is defined as **vapor condensed to fine particles of water suspended in the lower**



**atmosphere that differs from cloud only in being near the ground**, in Merriam-Webster's Collegiate Dictionary, Tenth Edition. Due to fact that fog is vapor condensed to fine particles of water, which are "three-dimensional objects" and are in constant motion, they can be "viewed circumferentially". Accordingly, Kataoka still reads on the "claimed" invention.

Applicant argues on pg. 8, under REMARKS, *with respect to independent claims 1, 9, 16, and 26, Dyner fails to disclose, among other things, "an illumination device for illuminating the projected medium for a fixed time period, wherein the projected medium forms a three-dimensional object, and the three-dimensional object is viewable circumferentially."* Applicant also argues, *unlike Dyner, embodiments of the present invention generate three-dimensional objects that are viewable from angles greater than 180 degrees. Furthermore, users may view a front sides, and back of the three-dimensional object simultaneously. The three-dimensional object is contained within a volume created by the projector and the receiving mechanism.*

Examiner disagrees and maintains Kataoka discloses the "claimed" invention with respect to claims 1, 9, 16, and 26, including "an illumination device for illuminating the projected medium for a fixed time period, wherein the projected medium forms a three-dimensional object, and the three-dimensional object is viewable circumferentially". For example, microscopic particle cloud material 5 (see FIG. 1 and col. 6, lines 2-10) formed by condensate and/or water is considered to be a "projection medium" that "forms the three-dimensional object, and the three-dimensional object is viewable circumferentially". In addition, Dyner states, in col. 11, lines 15-19, "expansion

chamber (52) employs electro-mechanical atomizing to vibrate a piezoelectric disk or transducer (53), oscillating ultrasonically and atomizing the condensate, generating a fine cloud mist of microscopic particulates for subsequent deployment". Paragraph [0022] of applicant's disclosure states, "A variety of projection mediums including sand, dust, steam, vapor, and liquid may be used". Due to fact that the microscopic particle cloud material 5 and the above-stated fine cloud mist of microscopic particulates contain particles and/or microscopic particulates that are "three-dimensional objects" and are in constant motion, they can be "viewed circumferentially". Accordingly, Dyner still reads on the "claimed" invention.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rochelle Blackman whose telephone number is (571) 272-2113. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "W B Perkey", is written over the typed name.

RB

**William Perkey**  
**Primary Examiner**